REMARKS

Reconsideration of the present application is respectfully requested. Claims 1-26 previously presented for examination remain in the application. Claims 1, 11 and 26 have been amended to more clearly and distinctly claim the subject matter that applicants regard as the invention.

Claims 1-26 stand rejected under 35 U.S.C. § 103(a) as being considered to be unpatentable over U.S. Patent No. 6,085,263 to Sharma et al. ("Sharma") in view of U.S. Patent No. 6,718,454 to Ebner et al. ("Ebner").

Claim 1 includes the limitations

> a prefetch engine to prefetch data from a distributed, coherent memory in response to a first transaction from an input/output bus directed to the distributed, coherent memory; and
>
> an input/output coherent cache buffer to receive the prefetched data, the coherent cache buffer being coherent with the distributed, coherent memory and with other cache memories in a system including the input/output coherent cache buffer,
>
> the prefetch engine further to speculatively prefetch data in anticipation of a need for the speculatively prefetched data in association with a second input/output transaction if data has been prefetched for all pending, memory-related transactions from the input/output bus.

(Claim 1)(emphasis added).

As previously argued and as admitted in the present Office Action, Sharma does not teach or suggest at least speculatively prefetching data as set forth in claim 1. The combination of Ebner with Sharma, were such a combination to be made, would also fail to teach or suggest the claimed features of applicants' invention including at least the prefetch engine of claim 1 that prefetches data and then speculatively prefetches data in anticipation of a need

for the data in association with an input/output transaction if data has been prefetched for all pending transactions.

As previously argued, the inclusion of an arbiter in Ebner and the accompanying description of its function indicate that the prefetch and fetch machines of Ebner operate concurrently such that prefetching can take place while fetching is in process.

In contrast, claim 1 sets forth a prefetch engine that is capable of speculatively prefetching if data associated with all pending transactions has been prefetched, e.g. if the prefetch engine would otherwise be idle.

For at least this reason, Ebner cannot be considered to teach the prefetch engine of claim 1 and therefore, the combination of Sharma and Ebner would also fail to suggest the claimed feature.

Independent claims 11 and 19 include a similar feature. Claims 2-10, claims 12-18 and claims 20-26 depend from and further limit claims 1, 11 and 19, respectively and thus, should also be found to be patentably distinguished over Sharma and Ebner, alone or in combination.

Based on the foregoing, applicants respectfully submit that the applicable rejections and objections have been overcome and that claims 1-26 are in condition for allowance. If the Examiner disagrees or believes that further discussion will expedite prosecution of this case, the examiner is invited to telephone applicants' representative at the number indicated below.

If there are any additional charges, please charge Deposit Account No. 02-2666.

Respectfully submitted,

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